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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/797,398	03/10/2004	David J. Lentz	11350.31	4325
23862	7590	04/29/2005	EXAMINER	
NYDEGGER & ASSOCIATES 348 OLIVE STREET SAN DIEGO, CA 92103			DOERRLER, WILLIAM CHARLES	
			ART UNIT	PAPER NUMBER
			3744	

DATE MAILED: 04/29/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/797,398

Applicant(s)

LENTZ ET AL.

Examiner

William C Doerfler

Art Unit

3744

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|----------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>3/11/05, 6/3/04, 12/</u> | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-3 and 5-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Friedman et al in view of Lehmann et al.

Friedman et al disclose applicants' basic inventive concept, a cryogenic cooling probe which uses nitrous oxide as the coolant (column 2 lines 49 and 57) which is supplied to the tip as a liquid (column 3 line 37) through a capillary (1 mm diameter), vaporized and the vapor is removed with the system control by controlling liquid valve 32 being mentioned in lines 45-48 and 58-61 of column 2 and lines 39-43 of column 3, substantially as claimed with the exception of clearly specifying the control system used

to control the liquid valve. Lehmann et al shows a temperature sensor 22 at the distal end of a thermal probe which sends signals to controller 16 which controls the temperature of the probe. It would have been obvious to one of ordinary skill in the art at the time of applicants' invention from the teaching of Lehmann et al to modify the cryogenic cooling probe of Friedman et al by using a temperature sensor at the distal end of the probe to control the inflow of liquid to control the temperature to ensure proper temperature of the probe. In regard to claims 3,7,8,18 and 19 both Friedman et al and Lehmann et al disclose cryogenic cooling systems which use nitrous oxide as the coolant. Pressure and temperature ranges are seen as matters of obvious design choice for an ordinary practitioner. Depending on the desired temperature of the probe (with both probes in the cryogenic range), one of ordinary skill in the art would realize that the pressure will control the temperature.

Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Friedman et al in view of Lehmann et al as applied to claims 1-3 and 5-20 above, and further in view of Longworth.

Friedman et al, as modified, disclose applicants' basic inventive concept, a cryogenic cooling probe which vaporizes nitrous oxide to provide cooling, substantially as claimed with the exception of a pressure regulator. Longworth shows this feature to be old in the cryogenic probe art (see regulator 44). It would have been obvious to one of ordinary skill in the art at the time of applicants' invention from the teaching of Longworth to modify the cryogenic probe of Friedman et al by using a pressure

regulator to control the pressure of cryogen leaving the source to ensure proper operation.


Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Steyert shows a cryogenic cooling system with a thermal sensor at a distal end of an expansion space for a cryogenic liquid. Chang, Barger et al, Lisenbee and Rzasa et al show cryogenic probes.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to William C Doerrler whose telephone number is (571) 272-4807. The examiner can normally be reached on Monday-Friday 6:30-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Denise Esquivel can be reached on (571) 272-4808. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


William C Doerrler
Primary Examiner
Art Unit 3744

WCD